General

Guideline Title

Assessing cognitive functioning. In: Evidence-based geriatric nursing protocols for best practice.

Bibliographic Source(s)

Milisen K, Braes T, Foreman MD. Assessing cognitive function. In: Boltz M, Capezuti E, Fulmer T, Zwicker D, editor(s). Evidence-based geriatric nursing protocols for best practice. 4th ed. New York (NY): Springer Publishing Company; 2012. p. 122-34.

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Braes T, Milisen K, Foreman MD. Assessing cognitive function. In: Capezuti E, Zwicker D, Mezey M, Fulmer T, editor(s). Evidence-based geriatric nursing protocols for best practice. 3rd ed. New York (NY): Springer Publishing Company, Inc.; 2008. p. 41-56.

Recommendations

Major Recommendations

Levels of evidence (I–VI) are defined at the end of the "Major Recommendations" field.

Assessment of Cognitive Function

Reasons/Purposes of Assessment

- Screening: to determine the absence or presence of impairment (Foreman et al., 2003 [Level VI]).
- Monitoring: to track cognitive status over time, especially response to treatment (Foreman et al., 2003 [Level VI]).

How to Assess Cognitive Function

- Mini-Mental State Examination (MMSE) (Folstein, Folstein, & McHugh, 1975 [Level VI]) can be used to screen for or monitor cognitive function; however, performance on the MMSE is adversely influenced by education, age, language, and verbal ability. The MMSE also is criticized for taking too long to administer and score.
- Mini-Cog (Borson et al., 2000 [Level VI]) or Sweet 16 (Fong et al., 2011 [Level VI]) can also be used to screen and monitor cognitive function; is not adversely influenced by age, language, and education; and takes about half as much time to administer and score as the MMSE.
- Informant Questionnaire on Cognitive Decline in the Elderly (IQCDE) is useful to supplement testing with the MMSE or Mini-Cog as it is useful to determine onset, duration, and functional impact of the cognitive impairment. Information from intimate others can be obtained by

using the IQCDE (Jorm, 1994 [Level VI]).
- Naturally occurring interactions: Observations and conversations during naturally occurring care interactions can be the impetus for additional screening/monitoring of cognitive function with the MMSE or Mini-Cog (Foreman et al., 2003 [Level VI]). Furthermore, observations should be standardized by using a formal observation instrument such as the Nurses' Observation Scale for Cognitive Abilities (Persoon, 2010 [Level IV]).

When to Assess Cognitive Function

- On admission to and discharge from an institutional care setting (British Geriatrics Society, 2005 [Level I]; Shekelle et al., 2001 [Level I]).
- Upon transfer from one care setting to another (Shekelle et al., 2001 [Level I]).
- During hospitalization, every 8 to 12 hours throughout hospitalization (http://www.mc.vanderbilt.edu/icudelirium).
- As follow-up to hospital care, within 6 weeks of discharge (Shekelle et al., 2001 [Level I]).
- Before making important health care decisions as an adjunct to determining an individual's capacity to consent (Shekelle et al., 2001 [Level I]).
- On the first visit to a new care provider (Shekelle et al., 2001 [Level I]).
- Following major changes in pharmacotherapy (Shekelle et al., 2001 [Level I]).
- With behavior that is unusual for the individual and/or inappropriate to the situation (Foreman & Vermeersch, 2004 [Level I]).

Cautions for Assessing Cognitive Function

Physical Environment (Dellasega, 1998 [Level VI])

- Comfortable ambient temperature.
- Adequate lighting (i.e., not glaring).
- Free of distractions (e.g., should be conducted in the absence of others and other activities).
- Position self to maximize individual's sensory abilities.

Interpersonal Environment (Engberg & McDowell, 1999 [Level VI])

- Prepare individual for assessment.
- Initiate assessment within nonthreatening conversation.
- Let individual set pace of assessment.
- Be emotionally nonthreatening.

Timing of Assessment (Foreman et al., 2003 [Level VI])

- Select time of assessment to reflect actual cognitive abilities of the individual.
- Avoid the following times:
  - Immediately on awakening from sleep; wait at least 30 minutes
  - Immediately before and after meals
  - Immediately before and after medical diagnostic or therapeutic procedures
  - In the presence of pain or discomfort

Follow-up Monitoring

- Provider competence in the assessment of cognitive function.
- Consistent and appropriate documentation of cognitive assessments.
- Consistent and appropriate care and follow-up in instances of impairment.
- Timely and appropriate referral for diagnostic and treatment recommendations.

Definitions:

Levels of Evidence

Level I: Systematic reviews (integrative/meta-analyses/clinical practice guidelines based on systematic reviews)

Level II: Single experimental study (randomized controlled trials [RCTs])

Level III: Quasi-experimental studies

Level IV: Non-experimental studies

Level V: Care report/program evaluation/narrative literature reviews

Level VI: Opinions of respected authorities/consensus panels

AGREE Next Steps Consortium (2009). Appraisal of guidelines for research & evaluation II. Retrieved from http://www.agreetrust.org/?o=1397 .

Adapted from: Melnyck, B. M. & Fineout-Overholt, E. (2005). Evidence-based practice in nursing & health care: A guide to best practice. Philadelphia, PA: Lippincott Williams & Wilkins and Stetler, C.B., Morsi, D., Rucki, S., Broughton, S., Corrigan, B., Fitzgerald, J., et al. (1998). Utilization-focused integrative reviews in a nursing service. Applied Nursing Research, 11(4) 195-206.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Impairment in cognitive function from conditions such as delirium, dementia, and depression

Guideline Category

Evaluation

Screening

Clinical Specialty

Family Practice

Geriatrics

Nursing

Intended Users

Advanced Practice Nurses

Allied Health Personnel

Health Care Providers

Hospitals

Nurses

Physician Assistants

Physicians

Guideline Objective(s)

To provide a standard of practice protocol to:

- Determine an individual's cognitive abilities
- Recognize early the presence of an impairment in cognitive functioning
- Monitor an individual's cognitive response to various treatments

Target Population

Hospitalized older adults

Interventions and Practices Considered

1. Use of assessment tools
    - Mini-Mental State Examination (MMSE)
    - Mini-Cog or Sweet 16
    - Informant Questionnaire on Cognitive Decline in the Elderly (IQCDE)
    - Naturally occurring interactions
2. Timing of assessment
    - On admission and discharge
    - On transfer
    - Every 8 to 12 hours during hospitalization
    - Before making important health care decisions
    - On first visit to a new provider
    - Following major changes in medication
    - With unusual behavior
3. Cautions for cognitive function assessment
    - Physical environment
    - Interpersonal environment
    - Timing of assessment

Major Outcomes Considered

- Timing and outcome of assessment or individualized care plan
- Patient satisfaction with care

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Although the Appraisal of Guidelines for Research and Evaluation (AGREE) instrument (described in Chapter 1 of the original guideline document, *Evidence-based Geriatric Nursing Protocols for Best Practice*, 4th ed.) was created to critically appraise clinical practice guidelines, the process and criteria can also be applied to the development and evaluation of clinical practice protocols. Thus, the AGREE instrument has been expanded (i.e., AGREE II) for that purpose to standardize the creation and revision of the geriatric nursing practice guidelines.

The Search for Evidence Process

Locating the best evidence in the published research is dependent on framing a focused, searchable clinical question. The PICO format—an acronym for population, intervention (or occurrence or risk factor), comparison (or control), and outcome—can frame an effective literature search. The editors enlisted the assistance of the New York University Health Sciences librarian to ensure a standardized and efficient approach to collecting evidence on clinical topics. A literature search was conducted to find the best available evidence for each clinical question addressed. The results were rated for level of evidence and sent to the respective chapter author(s) to provide possible substantiation for the nursing practice protocol being developed.

In addition to rating each literature citation as to its level of evidence, each citation was given a general classification, coded as "Risks," "Assessment," "Prevention," "Management," "Evaluation/Follow-up," or "Comprehensive." The citations were organized in a searchable database for later retrieval and output to chapter authors. All authors had to review the evidence and decide on its quality and relevance for inclusion in their chapter or protocol. They had the option, of course, to reject or not use the evidence provided as a result of the search or to dispute the applied level of evidence.

Developing a Search Strategy

Development of a search strategy to capture best evidence begins with database selection and translation of search terms into the controlled vocabulary of the database, if possible. In descending order of importance, the three major databases for finding the best primary evidence for most clinical nursing questions are the Cochrane Database of Systematic Reviews, Cumulative Index to Nursing and Allied Health Literature (CINAHL), and Medline or PubMed. In addition, the PsycINFO database was used to ensure capture of relevant evidence in the psychology and behavioral sciences literature for many of the topics. Synthesis sources such as UpToDate® and British Medical Journal (BMJ) Clinical Evidence and abstract journals such as *Evidence Based Nursing* supplemented the initial searches. Searching of other specialty databases may have to be warranted depending on the clinical question.

It bears noting that the database architecture can be exploited to limit the search to articles tagged with the publication type "meta-analysis" in Medline or "systematic review" in CINAHL. Filtering by standard age groups such as "65 and over" is another standard categorical limit for narrowing for relevance. A literature search retrieves the initial citations that begin to provide evidence. Appraisal of the initial literature retrieved may lead the searcher to other cited articles, triggering new ideas for expanding or narrowing the literature search with related descriptors or terms in the article abstract.

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Not stated

Rating Scheme for the Strength of the Evidence

Levels of Evidence

Level I: Systematic reviews (integrative/meta-analyses/clinical practice guidelines based on systematic reviews)

Level II: Single experimental study (randomized controlled trials [RCTs])

Level III: Quasi-experimental studies

Level IV: Non-experimental studies

Level V: Care report/program evaluation/narrative literature reviews

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Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review

Description of the Methods Used to Analyze the Evidence

Not stated

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Not stated

Rating Scheme for the Strength of the Recommendations

Not applicable

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

External Peer Review

Internal Peer Review

Description of Method of Guideline Validation

Not stated

Evidence Supporting the Recommendations

References Supporting the Recommendations

Borson S, Scanlan JM, Watanabe J, Tu SP, Lessig M. Simplifying detection of cognitive impairment: comparison of the Mini-Cog and Mini-Mental State Examination in a multiethnic sample. J Am Geriatr Soc. 2005 May;53(5):871-4. PubMed

British Geriatrics Society. Guidelines for the prevention, diagnosis, and management of delirium in older people in hospital. London (England): British Geriatrics Society; 2005.

Dellasega C. Assessment of cognition in the elderly: pieces of a complex puzzle. Nurs Clin North Am. 1998 Sep;33(3):395-405. [21 references] PubMed

Engberg SJ, McDowell J. Comprehensive geriatric assessment. In: Stone JT, Wyman JF, Salisbury SA, editor(s). Clinical gerontological nursing: a guide to advanced practice. 2nd ed. Philadelphia: Saunders; 1999. p. 63-85.

Folstein MF, Folstein SE, McHugh PR. "Mini-mental state". A practical method for grading the cognitive state of patients for the clinician. J Psychiatr Res. 1975 Nov;12(3):189-98. PubMed

Fong TG, Jones RN, Rudolph JL, Yang FM, Tommet D, Habtemariam D, Marcantonio ER, Langa KM, Inouye SK. Development and validation of a brief cognitive assessment tool: the sweet 16. Arch Intern Med. 2011 Mar 14;171(5):432-7. PubMed

Foreman MD, Fletcher K, Mion LC, Trygstad L. Assessing cognitive function. In: Mezey M, Fulmer T, Abraham I, Zwicker D, editor(s). Geriatric nursing protocols for best practice. 2nd ed. New York: Springer Publishing Company; 2003. p. 99-115.

Foreman MD, Vermeersch PE. Measuring cognitive status. In: Frank-Stromborg M, Olsen SJ, editor(s). Instruments of clinical health-care research. 3rd ed. Sudbury (MA): Jones and Bartlett; 2004. p. 100-27.

Jorm AF. A short form of the Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE): development and cross-validation. Psychol Med. 1994 Feb;24(1):145-53. PubMed

Persson A. Development and validation of the nurse observation scale for cognitive abilities - NOSCA (Doctoral thesis). Nijmegen (The Netherlands): Radbound University; 2010.

Shekelle PG, MacLean CH, Morton SC, Wenger NS. Acove quality indicators. Ann Intern Med. 2001 Oct 16;135(8 Pt 2):653-67. PubMed

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for selected recommendations (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Patient

- Assessment at recommended time points
- Early detection of impairments
- Care tailored to appropriately address cognitive status/impairment
- Satisfaction with care improved

Health Care Provider

- Competent to assess cognitive function
- Able to differentiate among delirium, dementia, and depression
- Use of standardized cognitive assessment protocol
- Satisfaction with care improved

Institution

- Improved documentation of cognitive assessments
- Impairments in cognitive function identified promptly and accurately
- Improved referral to appropriate advanced providers (e.g., geriatricians, geriatric nurse practitioners) for additional assessment and

treatment recommendations
- Decreased overall cost of care

Potential Harms

Not stated

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Chart Documentation/Checklists/Forms

Mobile Device Resources

Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

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Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2003 (revised 2012)

Guideline Developer(s)

Hartford Institute for Geriatric Nursing - Academic Institution

Guideline Developer Comment

The guidelines were developed by a group of nursing experts from across the country as part of the Nurses Improving Care for Health System Elders (NICHE) project, under sponsorship of the Hartford Institute for Geriatric Nursing, New York University College of Nursing.

Source(s) of Funding

Hartford Institute for Geriatric Nursing

Guideline Committee

Not stated

Composition of Group That Authored the Guideline

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Financial Disclosures/Conflicts of Interest

Not stated

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Guideline Availability

Electronic copies: Available from the Hartford Institute for Geriatric Nursing Web site .

Copies of the book *Geriatric Nursing Protocols for Best Practice*, 4th edition: Available from Springer Publishing Company, 536 Broadway, New York, NY 10012; Phone: (212) 431-4370; Fax: (212) 941-7842; Web: www.springerpub.com .

Availability of Companion Documents

The following are available:

- *Try This*® - issue 3: Mental status assessment of older adults: the Mini-Cog. New York (NY): Hartford Institute for Geriatric Nursing; 2 p. 2013. Electronic copies: Available in Portable Document Format (PDF) from the Hartford Institute for Geriatric Nursing Web site .
- *Try This*® – issue 3.2: Mental status assessment in older adults: Montreal Cognitive Assessment (MoCA), version 7.1. New York (NY): Hartford Institute for Geriatric Nursing; 2 p. 2012. Electronic copies: Available in PDF from the Hartford Institute for Geriatric Nursing Web site .
- Administering and interpreting the Mini-Cog. How to Try This video. Available from the Hartford Institute of Geriatric Nursing Web site .

The ConsultGeriRN app for mobile devices is available from the Hartford Institute for Geriatric Nursing Web site .

Patient Resources

None available

NGC Status

This summary was completed by ECRI on May 30, 2003. The information was verified by the guideline developer on August 25, 2003. This summary was updated by ECRI Institute on June 23, 2008. The updated information was verified by the guideline developer on August 4, 2008. This NGC summary was updated by ECRI Institute on June 24, 2013. The updated information was verified by the guideline developer on August 6, 2013.

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